



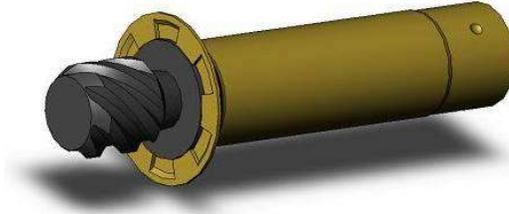
**HOWMET
AEROSPACE**

Ergo-Tech[®] Blind Bolt Installation Tools



April 1, 2020

Product Range of tools



Standard configurations are shown in this catalog. For other configurations, please contact your HFS representative.

Chart below provides Ergo-Tech® blind bolt most common customer part numbers with corresponding diameter. All further references shown in the catalog will be the HFS part number.

Dia	HFS part	Airbus P/N	Dassault	Bombardier
Code mm	number			
5	4.16	ER()-5-()()	ABS232 (2/3) K5-()	35775-05-()A B020704(2/3)-05
6	4.8	ER()-6-()()	ABS232 (2/3) K6-()	35775-06-()A B020704(2/3)-06
6	5.2	ERXS()-6-()()	ABS232 (2/3) K6X-()	
8	6.35	ER()-8-()()	ABS232 (2/3) K8-()	35775-08-()A B0207042(2/3)-08
8	6.8	ERXS()-8-()()	ABS232 (2/3) K8X-()	
10	7.9	ER()-10-()()	ABS232 (2/3) K10-()	B0207042(2/3)-10
10	8.3	ERXS()-10-()()	ABS232 (2/3) K10X-()	

5 thru 10 Diameter Pneumatic Pistol Grip Installation Tool



5 & 6 Diameter ATLAS COPCO LLB16 motor, 300 RPM - Weight about 800 grams.

8 & 10 Diameter ATLAS COPCO LBB26 motor, 300 RPM – Weight about 1 Kg

Dia		Fastener part number	Nose assembly part number	Installation tool part number
Code	mm			
5	4.16	ER()-5-()()	ETT2000-05N-AB	ETT2000-05-AB
6	4.8	ER()-6-()()	ETT2000-06N-AB	ETT2000-06-AB
6	5.2	ERXS()-6-()()		
8	6.35	ER()-8-()()	ETT2000-08N-AB	ETT2026-08-AB
8	6.75	ERXS()-8-()()		
10	7.9	ER()-10-()()	ETT2000-10N-AB	ETT2026-10-AB
10	8.3	ERXS()-10-()()		

5 thru 10 Diameter Battery Operated Pistol Grip Installation Tool



DESOUTTER ELS12 tool
(modified for Ergo-Tech® blind-bolts)
Weight 900 grams excluding battery
RPM set-up at 400 from factory.

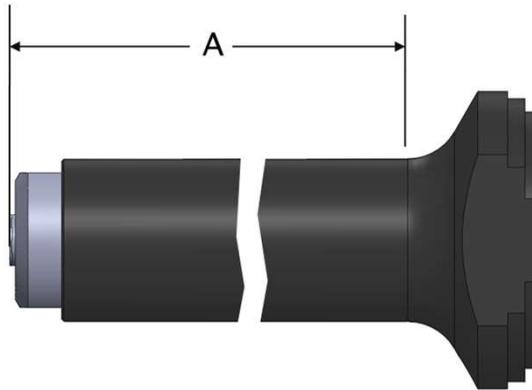
Dia		Fastener part number	Nose assembly part number	Installation tool part number
Code	mm			
5	4.16	ER()-5-()()	ETT2000-05N-AB	ETTGELS12-05-AB
6	4.8	ER()-6-()()	ETT2000-06N-AB	ETTGELS12-06-AB
6	5.2	ERXS()-6-()()		
8	6.35	ER()-8-()()	ETT2000-08N-AB	ETTGELS12-08-AB
8	6.75	ERXS()-8-()()		

Tool and nose only
Battery and Charger Not Included

5 thru 10 Diameter Nose Assembly Optional lengths

▶ IN-LINE NOSE GEOMETRY

Standard Ergo-Tech® blind-bolt noses have a length of 1,25 Inch (32 mm). If required for accessibility, extended lengths are available, as follows. Where () is replaced by diameter code of fastener to be installed :



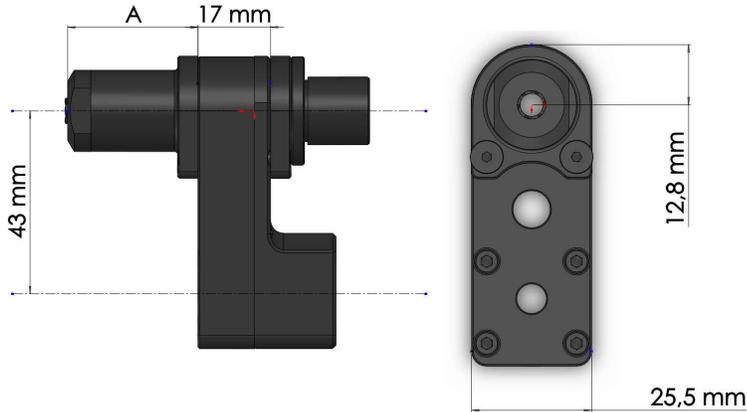
A length		Nose part number
Inch	mm	
1.25	32	ETT2000-()N-AB
2.5	64	ETT2000-()N- 2.50 -AB
3	76	ETT2000-()N- 3.00 -AB

Specific noses can also be ordered as part of a complete tool. Insert specific nose length, in blue, in tool part number. See example here below :

ETTGELS12-06-**2.50**-AB

Example for Battery Ergo-Tech® blind-bolts installation tools for 6 diameter fasteners, 2,5 inches (50 mm) length.

5 thru 8 Diameter Pistol Grip Offset Tool

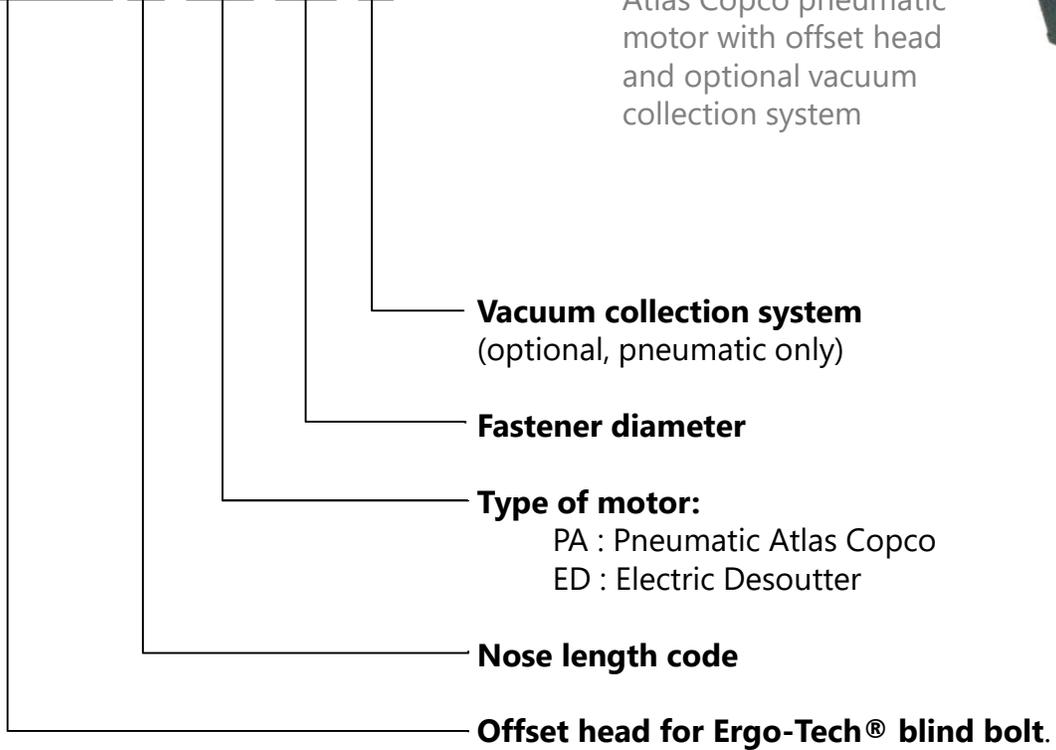


A length options		
Code	Length	
	Inch	mm
A	1.2	30.5



Atlas Copco pneumatic motor with offset head and optional vacuum collection system

ETT1415 A-ED-06-V



Battery Installation Tool - Accessories



- ✓ Battery Li-On 18V 2,1 Ah, Desoutter Part Number 6158120990
- ✓ Battery charger All in One18/36V
- ✓ Optional counting unit, Speed Setting Module, part number 6153968290. Displays total number of cycles when connected to a tool, one module only needed for all your tools.



Grip selection and Inspection

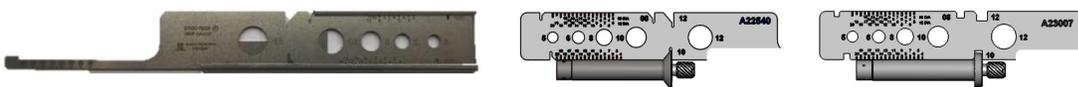
Ergo-Tech® blind bolt

▶ GRIP SELECTION

Ergo-Tech® blind bolt has same grip range as Hi-Lok®, Hi-Lite® or Lockbolt® fasteners. The Howmet **122666** GP/LGP grip gage will provide a direct reading of the Ergo-Tech® blind bolt grip code to be installed.



Specific Ergo-Tech® blind bolt gages are also available. In addition to grip selection it allows diameter and grip code identification of the Ergo-Tech® blind bolt fasteners. Gages are based on head style, use **A23007** for protruding head (ER212) and **A22540** for flush heads (ER755 / ER213)



▶ INSPECTION

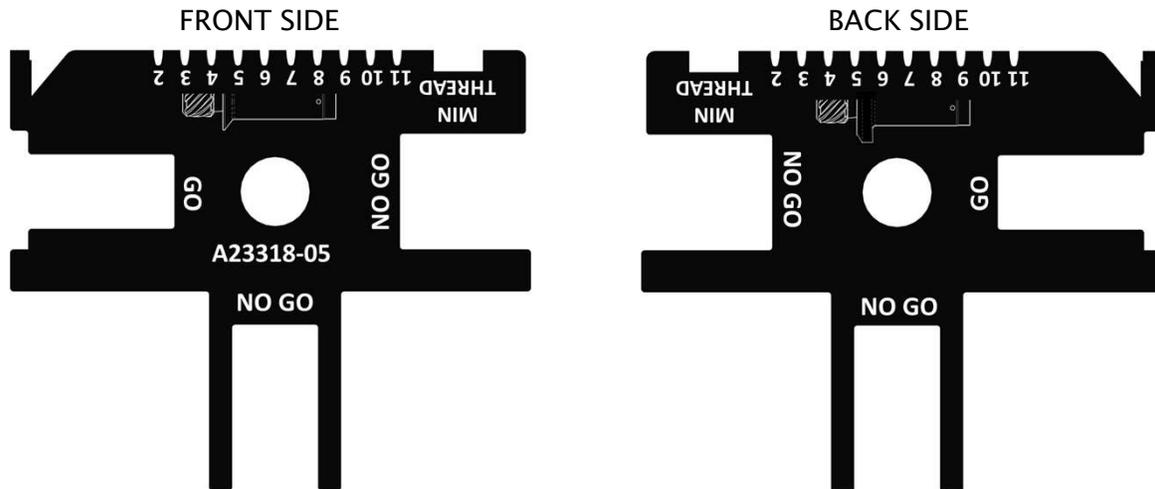
Gages used to check bulb shape and protrusion are available. Part numbers are shown below :

Code	Dia	Fastener part number	Gage Part number
	mm		
5	4.16	ER()-5-()()	A23318-05
	4.8	ER()-6-()()	A23318-06
6	5.2	ERXS()-6-()()	A23318-XS06
	6.35	ER()-8-()()	A23318-08
8	6.75	ERXS()-8-()()	A23318-XS08
	7.9	ER()-10-()()	A23318-10
10	8.3	ERXS()-10-()()	A23318-XS10

Grip selection and Inspection

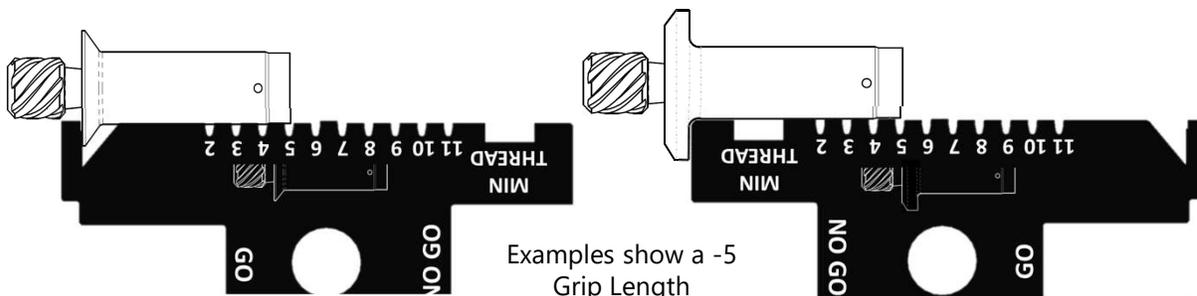
Ergo-Tech® blind bolt

▶ INSPECTION



- Fastener grip code verification, flush head front side, protruding head backside.
- Bulb inspection
- Min corebolt thread protrusion

▶ GRIP VERIFICATION



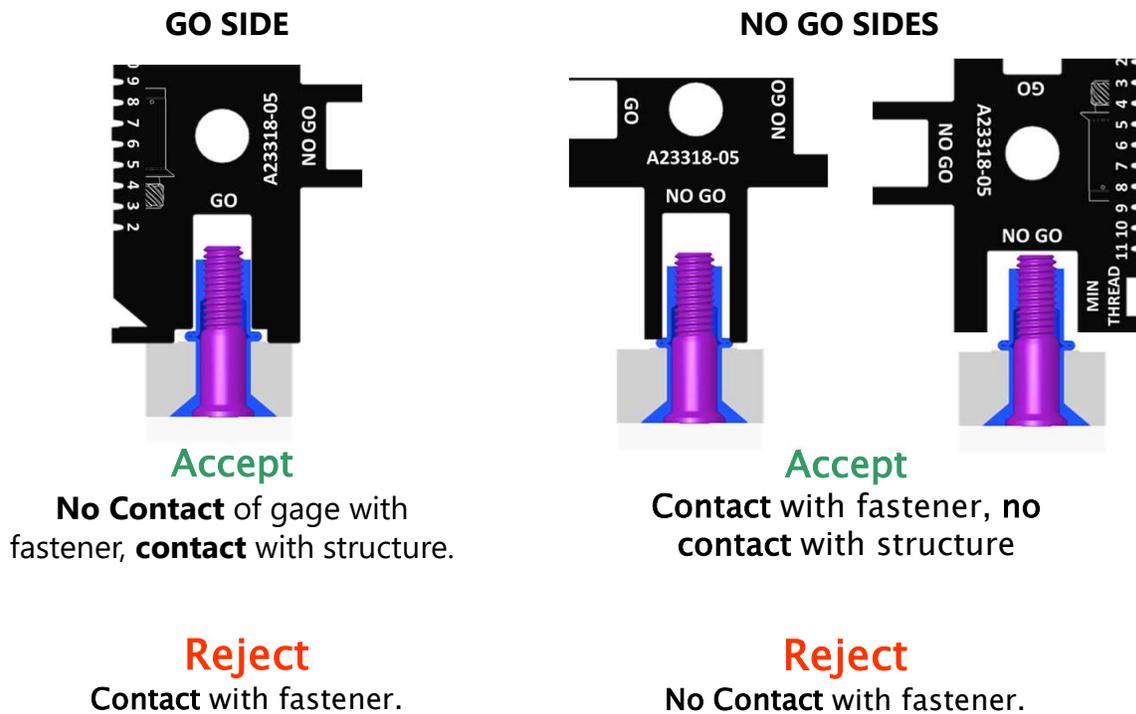
Grip scale on side of the gage used to verify grip length of the fastener. Use appropriate side according to head style, see sketch on gage.

Grip selection and Inspection

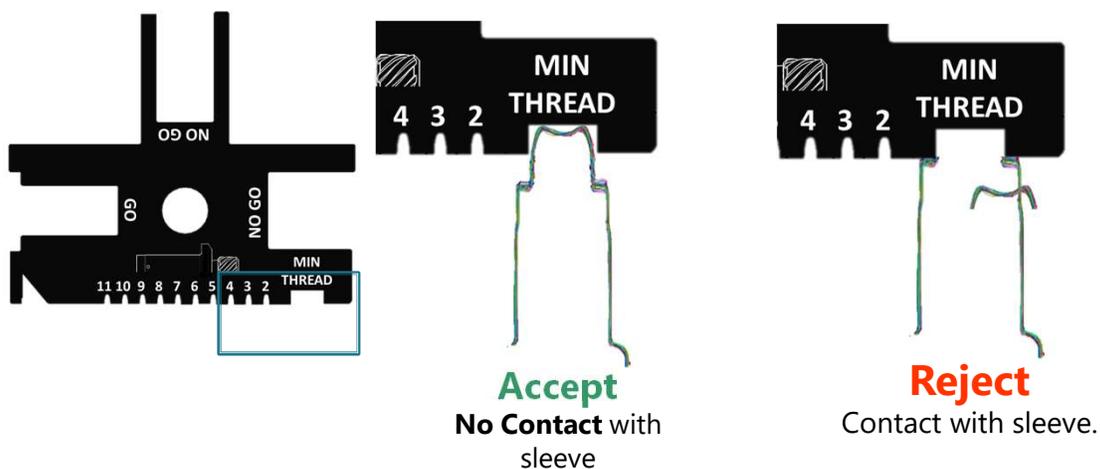
Ergo-Tech® Blind Bolt

INSPECTION

Bulb verification :



Corebolt thread min protrusion verification :



Accessory

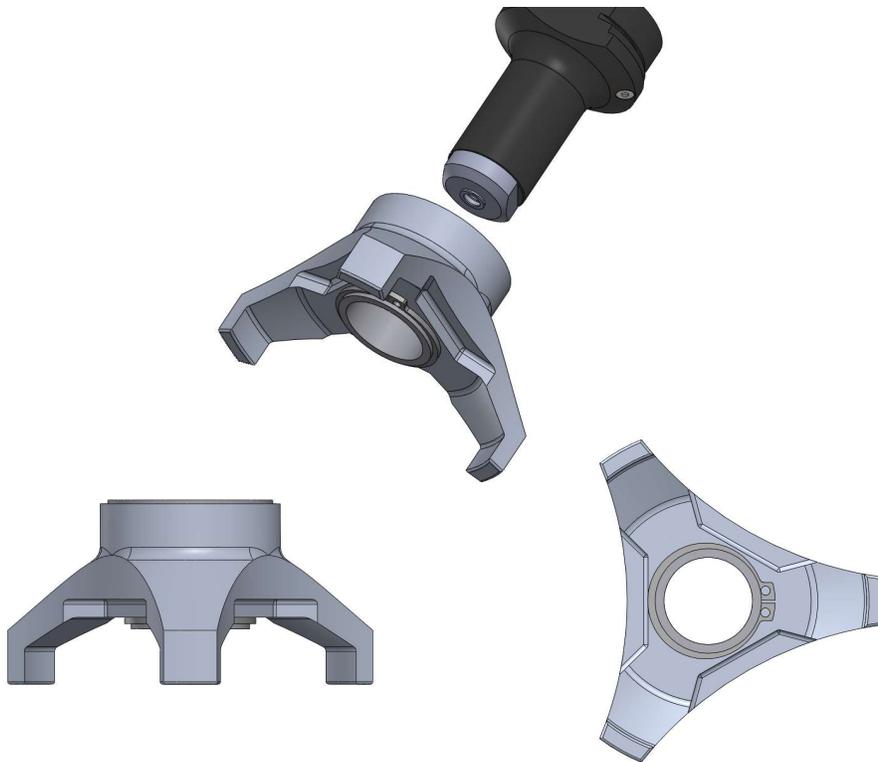
▶ **TRIPOD FOR TOOL ALIGNMENT**

For application where cosmetics are critical, optional Tripod ER-TR5-10 helps to perfectly align tool with fasteners and prevents head damages such as burr. It is available for all noses up to 10 diameter for both electric and pneumatic tools.

It can be ordered separately, or as a part of installation tool using a **TR** suffix at end of tool part number :

ETT2000-()-AB**TR**

Pneumatic Ergo-Tech® blind bolt installation tool **with tripod**



ER-TR5-10

Ergo-Tech® blind-bolts Tripod for
ETT2000-()N nose assembly, dia 5
thru 10.

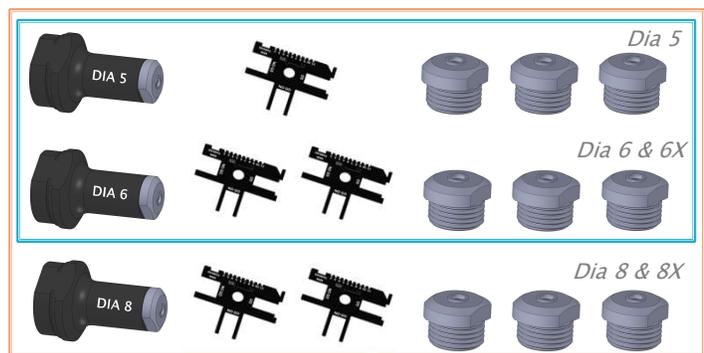
Installation tool kits

▶ INSTALLATION KITS

Kit contains a tool and grip gages, common to all diameters, one or several noses according to configuration, plus spare anti-rotation inserts. Kit allows installation and inspection of selected diameter or diameter range, nominal and oversize. Batteries and charger can be included, see part number description for available configurations.



Common base



ER-IK ED-56

→ Diameters part of the kit

- **56** : kit for dia 5, 6 and 6X Ergo-Tech ® blind-bolt
- **568** : kit for dia 5 and 8 Ergo-Tech ® blind-bolts, including oversize.

→ **Electric Tool, Desoutter**

→ **Installation Kit**

- **IK** : Complete kit, charger & 2 batteries
- **IKB** : Kit 2 batteries, no charger
- **IKL** : Kit no battery, no charger

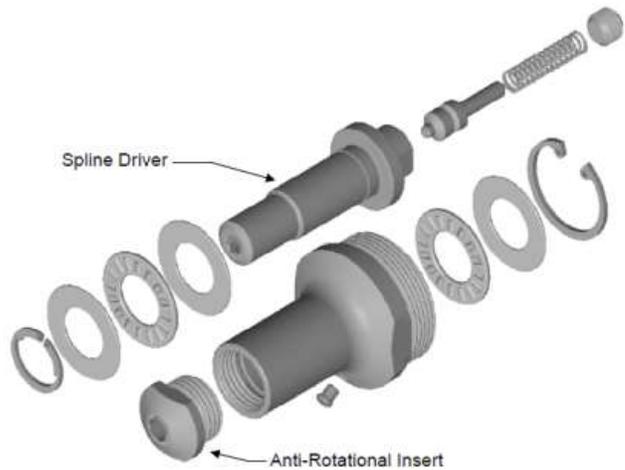
→ **Ergo-Tech® blind-bolts**

Maintenance Recommendations

▶ SPARE PARTS

Anti-rotation inserts and in a lower extent spline driver are recommended to be kept available in house for smooth maintenance operation. They will be submitted to wearing.

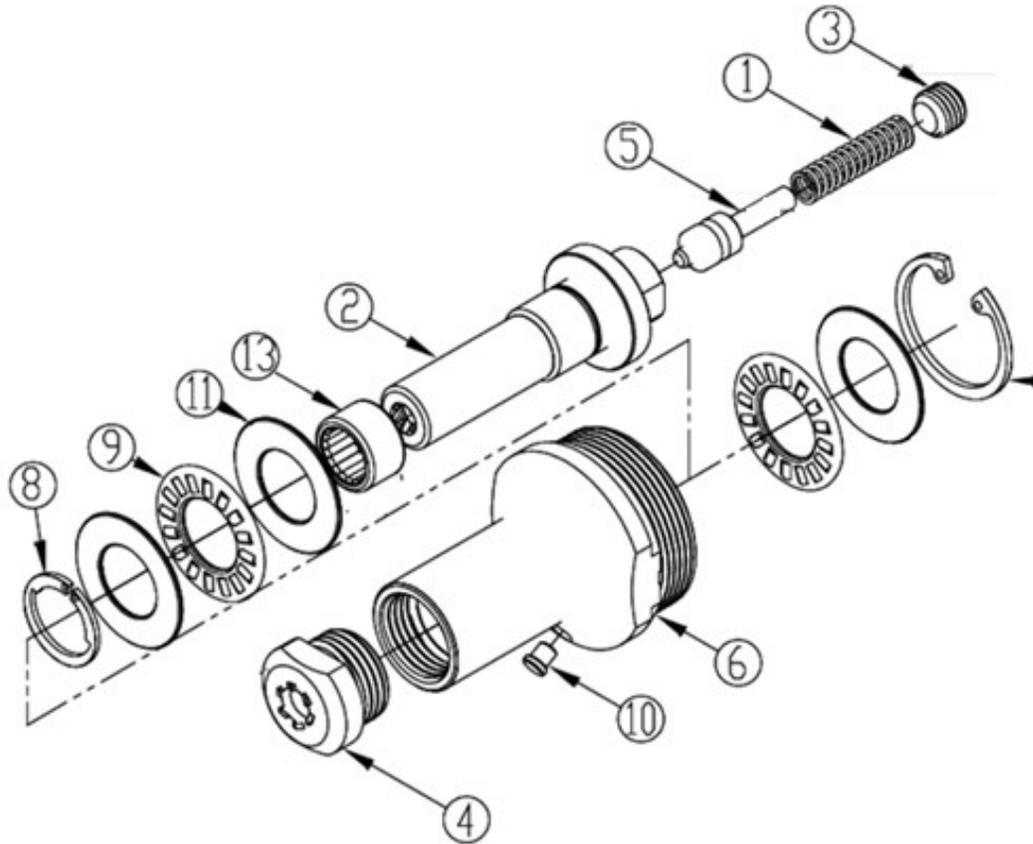
Code	Dia mm	Anti-rotation inserts part	Spline drivers part number
5	4.16	A20770	A20553-AB
6	4.8	A20769	
	5.2		
8	6.35	A20771	A20552-AB
10	7.9	A20772	A20679-AB



▶ TOOL CLEANING

Tool performance and life time can be drastically affected by foreign materials contamination and build-up into the nose assembly. Noses shall be kept cleaned and in good conditions. A regular cleaning, at end of each shift for example, with solvent or similar and before complete curing of sealant is recommended.

Noses Spare Parts



ITEM NO	DESCRIPTION	QTY	PART NUMBER			
			Dia 5	Dia 6	Dia 8	Dia 10
1	COMPRESSION SPRING	1	023-9200			
2	SPLINE DRIVER	1	A20553-AB	A20552-AB	A20679-AB	
3	SET SCREW	1	065-9016			
4	ANTI-ROTATION INSERT	1	A20770	A20769	A20771	A20772
5	PUSHER	1	068-9063		068-9066	068-9067
6	INSERT HOUSING	1	094-9598-AB			
7	SNAP RING	1	096-5095			
8	RETAINING RING	1	096-5122			
9	NEEDLE THRUST BEARING	2	100-9270			
10	GREASE FITTING	1	100-9278			
11	THRUST WASHER	3	100-9288			
13	BEARING B-76	1	100-9199			



Howmet Fastening Systems

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